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NOTES ON MESEMBRYANTHEMUM AND ALLIED GENERA

H. M. L. BOLUS

Dorotheanthus martinii L. Bol. sp. nov.—Plantae ferae plures visae; folia saepius spathulata vel subspathulata vel fere linearia, obtusa vel rarius subacuta, rubra, 2·2—3 cm. longa, 3—7 mm. lata; flores maturi marcescentes tantum visi; pedunculi ad 1·7 cm. longi; receptaculum semiglobosum, 4 mm. longum, ad 5 mm. diam. vel 3 mm. longum, 6 mm. diam. vel in floribus senectis ad 7 mm., in fructu immaturo ad 1·2 cm., diam.; sepala 5, oblonga vel sublinearia, obtusa vel in flore senecto extima 2 basim versus latiora, 6—8 mm., vel 7—9 mm., vel 7—10 mm., vel 7—11 mm., longa, basi 2 mm., 3—4 mm., et 3—5 mm. lata, accrescentia, in fructu immaturo ad 1·3—1·7 cm. longa, basi 5—9 mm. lata, accrescentia, exterius unicum parum supra basim latam angustatum, prope apicem rotundum in latum crescens; petala 2-seriata, ex infra medium inferne, e supra medium superne, angustata, laete lutea, cum aetate pallida, ad 2·4 cm. longa, medio (in alabastro in aqua aperto) ad 2·5 mm. lato; filamenta ca. 5-seriata, saturate aurantiaca vel fere rubra, ad 3 mm. longa, antheris pollineque saturate aureis; discus inconspicuus; ovarium supra profunde concavum, lobis inconspicuis; stigmata 5, inferne leviter incrassata, superne attenuata, papillata, cum cauda breve ad 4·5 mm., vel in fructu immaturo ad 10 mm., longa accrescentia.

Cape Province: in dit. Robertson; "on the farm 'Eilandia', about 10 miles W. of Robertson, on a sandy slope facing north and only one small colony seen," Sept. 1964, *Martin C. Littlewood*. Karoo Garden 215/64.

Drosanthemum barwickii L. Bol. sp. nov. (*Aspericaulia-Carinata*).—Rami 3 visi, lignosi politii atrati, basi 3—4 mm. diam.; rami secundarii ascendentes, internodiis saepius 1—2·5 cm. longis; ramuli ultimi floriferi graciles, cum floribus 3—6 cm. longi; partes herbaceae glaucae virides, papillis saepissime rotundis; folia erecta interdumque subfalcata, vel ascendentia, compressa carinataque, supra visa lanceolata linearia, e basi superne angustata, obtusa, lat. visa oblique rotunda vel subacuta, 7—11 mm. longa cum vagina ca. ad 1 mm. longa, 1·5—2 mm. lata, medio 2—3 mm. diam., basim versus conspicuiore papillosa, basi vaginae dense longeque papillosa; flores 2—2·5 cm. diam., diurni; pedunculi conspicue papilloso, ad 8 mm. longi; receptaculum obconicum, conspicue papillosum, 3 mm. longum, 4—5 mm. diam.; sepala 6, extima 2 inferne plana, superne compressa, prope medium 1·5—2 mm. diam.,

cetera oblonga vel linearia, apice acute breviterque subulato, omnia $\pm$ marginata, 4—6 mm. longa, basi 1·5—2 mm. lata; petala purpureo rosea, exteriora 2-seriata subspathulata, saepius 2-dentata, ad 9—10 mm. longa, fere ad 2 mm. lata, interiora perpauca, in staminodia transeuntia; staminodia mox recurva, rosea, stamina longissima aequantia; filamenta 3—4-seriata, primum fere erecta, mox subdiffusa, inferne alba, superne pallide rosea, ad 5 mm. longa, exteriora inferne ciliate papillata, interiora parum infra medium papillata, antheris pollineque primum pallide stramineis, deinde albis; glandulae approximatae vel fere coalitae, profunde divisae; ovarium circa marginem planum, deinde lobis erectis distantibus compressis, per 1 mm. elevatis; stigmata 6, inferne anguste subulata, longe attenuata, ad 3 mm. longa, cauda brevissima.

Cape Province; in dit. Swellendam; "3 miles from Bonnievale on the road to Goudmyn", Sept. 1964, *A. F. Barwick* 3720.

Drosanthemum tuberculiferum L. Bol. sp. nov. (*Aspericaulia-Semiteretia*).—Plantae 2 visae, ferae, sat graciles, caule ad 5 mm. diam.; rami primarii decumbentes, ad 12 cm. longi, internodiis 5—20 mm. longis, ad 2 mm. diam., apicem versus cum ramis secundariis papillis integris, subconicis vel ovalibus onusti; ramuli ultimi floriferi saepius 2-foliati, 1·5—2·5 cm. longi, axillo altero interdum gemmifero itaque ramulus floriferus ejusdem aetatis evolutus est; folia erecta vel incurva, teretia obtusa, pallide glauca viridia, papillis rotundis, ad 1·1 cm. longa, 1·5—2 mm. diam.; pedunculi a receptaculo distincti, 1·2—2 cm. longi; receptaculum subglobose obconicum, ad 3 mm. longum, ad 5 mm. diam.; sepala 5, oblonga obtusa, omnia $\pm$ marginata, 3—4 mm. longa, basi 1·5—2 mm. lata; petala 2—3-seriata, sat laxa, e supra medium inferne angustata, obtusa vel subtruncata obscureque emarginata, laete rosea, 7—10 mm. longa, ad 1·5 mm. lata; staminodia nulla; filamenta ca. 4-seriata, fere erecta, rosea, ad 4 mm. longa, interiora parum supra basim conspicue roseo longeque papillata, antheris pollineque luteis; glandulae crenulatae; ovarii lobi stellate patentes, glandulas attingentes, obtuse compressi, leviter elevati; stigmata 5, e basi anguste subulata papillataque longe caudate attenuata, ad 4·5 mm. longa; capsula obtusissime 5-angulata, infra scutelliformis, 1 mm. longa, supra per 1 mm. elevata, suturis leviter compressis, 6 mm., expansa 10 mm., diam., loculis tuberculo placentale onustis (itaque nomen), aliter generis.

Cape Province: in dit. Worcester; Rabiesberg, Sept. 1935, *E. Esterhysen*. Bolus Herbarium 21630.

Described from dried specimens and dissections made from living flowers, and an excellent coloured plate with magnified dissections made by Miss B. O. Carter from the living wild plant.

Ruschia holensis L. Bol. sp. nov.—Plantae ferae 2 visae, erectae glabrae, sat rigidae, 19 et 21 cm. altae, ad 25 cm. diam.; caulis 8—10 mm. diam.; rami

primarii ad 5 mm. diam., internodiis 1—2·5 cm. longis; ramuli floriferi ultimi cum floribus 4—7 cm. longi, internodiis 1—1·5 cm. longis, ad 2 mm. diam.; ramuli steriles 2—4-foliati, inferne reliquiis crebris vestiti; folia ascendentia, supra visa plana vel apicem versus convexula, superne non, vel leviter, angustata, obtusa, lat. visa apice rotundo, carina ad lineam reducta, lateribus convexulis, levia viridia, cum aetate rubra, 1—1·8 cm. longa, 4—5 mm. lata, 5—6 mm. diam.; flores 1—3-nati, meridiani; pedunculi a receptaculo bene distincti leviterque intrusi, omnes bracteati, infra bracteas compressi, supra eas teretes, 1—1·7 cm., fructiferi 2—5 cm., longi; bracteae basim vel medium receptaculi attingentes, cucullatae, lat. visae obtusae, 5—7 mm. longae cum vagina ad 4 mm. longa; receptaculum semiglobum, basi subtruncatum, 3—4 mm. longum, 5—6 mm. diam.; sepala 5 vel in flore unico (cum stigmatibus) 4, omnia $\pm$ anguste marginata, e parum supra basim superne angustata, acuta, apice interiorum breviter subulato, 6—7 mm. longa, basi 3—4 mm. lata, vel in floribus aliis superne vix angustata, abrupte acuta, 4—5 mm. et 5—6 mm. longa; petala 28—33, 2—3-seriata, e parum supra medium inferne angustata, obtusa vel subtruncata, purpureo rosea, inconspicue vittata, in flore maximo ad 1·5 cm. longa, 2 mm. lata, in aliis 10—12 mm. et 8—10 mm. longa, ad 1·5 mm. lata; staminodia nulla; filamenta 5-seriata erecta, mox diffusa exterioraque late recurva, inferne pallida, superne laete rubida, ad 4 mm., vel rarius ad 5 mm., longa, intimis parum supra medium papillatis, antheris pollineque albis; discus denticulatus; ovarium circa marginem concavum, lobis subapproximatis, superne obtuse leviterque compressis, demum ad 1 mm. elevatis; stigmata 5, gracilia, superne attenuata, brevissime papillata caudataque, pallide viridia, 4—5 mm. longa; capsula infra semiglobosa, basi subtruncata, 3—4 mm. longa, 7—8 mm., expansa ad 1·4 cm., diam., supra per 3—4 mm. elevata, suturis leviter compressis, valvis late patentibus, carinis erectis muticis brevissimis, partem tertiam valvae tantum attingentibus, in dimidio inferiore parallelis contiguis, in superiore late divergentibus, tuberculo ovale brunneo, seminibus globose obovatis, levibus.

Cape Province: in dit. Vanrhynsdorp; Hol River, prope Lutzville, Sept. 1964. *H. Hall* 2864. "Few plants seen, very widely scattered."

Ruschia defecta L. Bol. sp. nov. (*Microphyllae*).—Planta 1 visa, glabra, 13 cm. alta, 15 cm. diam., caule 5 mm. diam.; rami hornotini steriles ad 14 foliati, basi reliquiis vaginantibus paucis onusta, ad 8 cm. longi, internodiis 5—15 mm. longis, foliis omnibus simillimis, supra visis lanceolate linearibus, obtusis vel subacutis, viridibus, ad 1·1 cm. longis cum vagina 1·5 mm. longa, 2—3 mm. latis, lat. visis obtusis vel subacutis, ad 2 mm. diam., novellis apiculatis, marginibus carinaque ciliolatis; folia cetera persistentia subindurata variabilia, late ovata obtusa, ad 3 mm. longa, vel ovata acuta, ad 5 mm. longa, vel ad 7

mm. longa cum vagina pergamentacea 3 mm. longa; ramuli ultimi floriferi e paribus foliorum 1—2 et bracteis compositi, 1·5—3·5 cm. longi; pedunculi saepius 1—1·5 cm. longi, prope basim bracteati; bractee supra visae oblonge ovatae, acutae vel subobtusae, 6—7 mm. longae cum vagina ad 2 mm. longa; receptaculum obconicum, 2 mm. longum, 3—4 mm. diam.; sepala 5, oblonga vel lineare oblonga, subacuta, omnia $\pm$ marginata, 4—5 mm. longa, basi ad 1·75 mm. lata; petala 2—3-seriata, e infra medium et prope apicem leviter angustata, 5—7 mm. longa, 0·5—0·75 mm., vel rarius ad 1 mm., lata; staminodia nulla (itaque nomen *defecta*); filamenta 3-seriata, conferta, massa parum supra basim leviter constricta, basim versus pallida, deinde sordide purpurea, intima parum supra basim papillata, antheris pollineque albis; ovarii lobi subapproximati, discum crenulatum attingentes et eum leviter excedens; stigmata 5, e basi angustissime subulata longe attenuata, sordide purpurea, 3—4 mm. longa.

Cape Province: Namaqualand; "about 17 miles from Springbok along the road to Spektakel, collected in 1963", *P. van Heerde*. Bolus Herbarium 27654. Flor. hort. van Heerde Aug. 1964.

Ruschia menniei L. Bol. sp. nov. (*Microphyllae*).—Rami primarii plures tantum conservati, e basi ad 4 mm. diam. ramulos breves crebros steriles et floriferos ad 10-foliatos, per 8 cm. elongatos, internodiis 1—1·7 cm. longis, ad 2 mm. diam., emittentes; folia omnia simillima, matura ascendentia, dimidio superiore saepe recurvo, supra visa linearia, e parum supra basim superne angustata, acuta, longe apiculata, marginibus carinaeque minute cartilagineo ciliolatis, ad 1·5 cm. longa, basi 2 mm. lata, medio ad 1·5 mm. diam.; pedunculi ultra folia supra per 1—1·5 cm. producti; receptaculum obconicum, ad 2·5 mm. longum, apice 4 mm. diam.; sepala 5, fere e basi angustata, acuminata apiculata, omnia $\pm$ marginata, 5—7 mm., vel in flore altero 6—8 mm., longa, basi 2—4 mm. lata; petala ca. 3-seriata, e parum supra medium inferne leviter angustata, acuta vel obtusa, supra rosea, externe partim vel omnino purpurea, 4—8 mm. longa, 0·5—1 mm. lata; staminodia sat pauca, gracillima, inferne pallida, superne purpurea, apice alba, stamina conferta aequantia vel leviter excedentia; filamenta 4-seriata, inferne pallida, superne purpurea, intima parum supra medium papillata, antheris pollineque albis; ovarii lobi obtuse compressi, fere per 1 mm. elevati; stigmata 5, inferne anguste subulata, longe attenuata, ad 3·5 mm. longa.

Cape Province: in dit. Malmesbury; prope Darling, Dec. 1937, *A. Mennie*. Bolus Herbarium 27660. Fl. hort. F. Bolus, July 1938.

The genus **Argyroderma** may be divided roughly into the following groups and subgroups. (It is hoped that this may assist collectors to make more valuable field-notes, and at the same time test the validity of the key.)